

REMARKS

Claims 1 to 28 are all the claims pending in the application, prior to the present Amendment.

Claims 1-28 have been rejected under the second paragraph of 35 U.S.C. § 112 as indefinite.

The Examiner sets forth a number of reasons for this rejection. Applicants discuss each of these reasons below.

(a) The Examiner states that claim 1 is indefinite because the term “crosslinkable” is vague. The Examiner states that it is not clear if the crosslinking actually occurs, or if it is a mere possibility.

In response, applicants have deleted the phrase “a silicon atom-containing functional group crosslinkable by formation of a siloxane bond” and have inserted, in its place, the phrase -- a reactive silicon group --. Applicants have made this change in the definition of both the oxyalkylene polymer (A) and the vinyl polymer (B). Support for these amendments appears throughout the specification and can be found, for example, at page 5, line 24, to page 6, line 1.

Applicants have made these changes to provide antecedent basis for the term “the reactive silicon group” which appears in claims 6, 7 and 8.

In view of the above, applicants request withdrawal of this aspect of the rejection.

(b) The Examiner states that claim 4 is not clear because of the term “double.” The Examiner states that the meaning of “double” is not clear and asks what is “double”?

In response, applicants submit that the meaning of the term “double” would be clear to one of ordinary skill in the art. The term “double” means that there are two metals in the cyanide complex. Applicants note that there are numerous prior art references which employ this term. Applicants refer the Examiner to, for example, U.S. Patents 5,731,407 (e.g., columns 1-2) and 5,900,384 (e.g., columns 1-4), which employ and define this term, and the enclosed copy of an article by Liu, et al, “Preparation and Characterization of Double Metal Cyanide Complex Catalysts,” *Molecules* 8:67-73 (2003), which employs this term in its title and throughout the article. In view of these disclosures, applicants submit that one of ordinary skill in the art would readily understand the meaning of the term “double” in claim 4. Applicants have listed the above documents in a concurrently filed Information Disclosure Statement.

Accordingly, applicants request withdrawal of this aspect of the rejection.

(c) Claims 6-8 have been rejected because of no antecedent basis for the term “the reactive silicon group.”

As discussed in item (a) above, applicants have amended claim 1 to recite this term and thereby provide antecedent basis for this term.

Accordingly, applicants request withdrawal of this aspect of the rejection.

(d) The Examiner states that claim 8 is indefinite because there is no antecedent basis for the term “the oxypropylene polymer (A).”

In response, applicants have amended claim 8 to change this term to -- the oxyalkylene polymer (A) -- in the two occurrences where this term appears in claim 8.

Accordingly, applicants request withdrawal of this aspect of the rejection.

In view of the above, applicants submit that the claims comply with the requirements of the second paragraph of 35 U.S.C. § 112 and, accordingly, request withdrawal of this rejection.

Claim 4 has been rejected under the first paragraph of 35 U.S.C. § 112 as failing to comply with the enablement requirement.

The Examiner states that it is not clear what is meant by the term “double metal cyanide complex catalyst” at page 25, line 8 to page 4, line 8. The Examiner’s reference to these page and line numbers is confusing. In any event, the term “double metal cyanide complex catalyst” appears throughout the specification. As applicants discussed above, the meaning of this term is clear to one of ordinary skill in the art.

Accordingly, applicants submit that claim 4 is based on an enabling disclosure and, therefore, request withdrawal of this rejection.

Claim 22 has been objected to because it employs the plural term “claims 21.” Applicants have amended claim 22 to refer to the singular, namely, to “claim 21.” Applicants have also amended claim 27 to change “claims” to -- claim --.

Claims 1-28 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 2002-194204.

The Examiner has provided an English-language translation of this reference.

In the Office Action, the Examiner refers to various portions of the translation by reference to the page number of the translation.

Applicants submit that JP '204 does not disclose or render obvious the subject matter of the present claims and, accordingly, requests withdrawal of this rejection.

The present invention as set forth in claim 1 as amended above is directed to a curable composition comprising an oxyalkylene polymer (A) having a number-average molecular weight of 16,000 or more, the oxyalkylene polymer (A) containing a reactive silicon group, a vinyl polymer (B) containing a reactive silicon group, and an oxyalkylene polymeric plasticizer (C) having a smaller molecular weight than that of the polymer (A). The vinyl polymer (B) is prepared by polymerization in the presence of the oxyalkylene polymeric plasticizer (C).

Thus, applicants have amended claim 1 to include recitations from claim 14 to recite that the vinyl polymer (B) is prepared by polymerization in the presence of the oxyalkylene polymeric plasticizer (C). Applicants have canceled claim 14.

JP '204 discloses in paragraph [0092] that a plasticizer can be employed in their composition. JP '204 discloses a long list of various plasticizers that can be used in their invention, including, for example, various phthalic acid esters, such as di(2-ethylhexyl phthalate) (known as DOP). Among the various plasticizers disclosed in JP '204 are polyoxyalkylene polymers, but JP '204 does not disclose any working Example of the use of polyoxyalkylene polymers as plasticizers. The only working Examples that appear in JP '204 are examples which employ a low molecular weight plasticizer of di(2-ethylhexyl phthalate) DOP. See page 57 and Table 1 at page 58 of the translation of JP '204.

Applicants submit that JP '204 does not lead one of ordinary skill in the art to select an oxyalkylene polymeric plasticizer from the long list of plasticizers disclosed in JP '204,

especially since JP '204 does not contain any working Example of such a plasticizer and does not provide any motivation to use such a plasticizer.

Further, as recited in claim 1, the oxyalkylene polymeric plasticizer (C) of the present invention has a smaller molecular weight than that of the polymer (A). The molecular weight of the oxyalkylene polymer (A) is 16,000 or more, and thus the molecular weight of the oxyalkylene polymeric plasticizer (C) must be less than 16,000. As disclosed in the present specification at page 34, lines 10-12, if the molecular weight is too high, viscosity increases, and workability tends to decrease. The molecular weight of the oxyalkylene polymeric plasticizer (C) is preferably 500 to 15,000, as recited in claim 16, and more preferably 1,000 to 8,000, as recited in claim 17.

JP '204 does not contain any information relating to the molecular weight of the polyoxyalkylene polymeric plasticizers it discloses and, therefore, does not disclose or suggest the use of an oxyalkylene polymeric plasticizer (C) having a molecular weight smaller than the molecular weight of polymer (A).

JP '204 does disclose in paragraph [0094] that high-molecular weight plasticizers having a Mn of 1,000 or larger can be employed, but JP '204 nowhere sets forth a relationship between the molecular weight of polymer (C) and the molecular weight of their high molecular weight plasticizers, and nowhere discloses or suggests the use of an oxyalkylene polymeric plasticizer (C) having a molecular weight smaller than the molecular weight of polymer (A).

Further, JP '204 does not disclose a vinyl polymer (B) that is prepared by polymerization in the presence of the oxyalkylene polymeric plasticizer (C).

The use of such a vinyl polymer (B) provides improved and unexpected results as compared to a vinyl polymer (B) that is not prepared by polymerization in the presence of the oxyalkylene polymeric plasticizer (C). Thus, as disclosed at page 33, lines 2-6, tensile elongation properties are improved by the use of such a vinyl polymer.

This can be seen from the results of Example 4 of the present specification which employed a vinyl polymer (B) that was prepared by polymerization in the presence of an oxyalkylene polymeric plasticizer (C). Example 4 had a % elongation at break of 955, which is far higher than the % elongation at break of any of the other Examples and Comparative Examples. JP '204 neither discloses nor suggests the unexpected results obtained by the presently claimed invention.

Example 4 employed a curable composition comprised of the oxyalkylene polymer of Synthesis Example 2 having a molecular weight greater than 20,000, corresponding to polymer (A) of the present claims, and the polymer (C) of Synthesis Example 6, comprised of a vinyl polymer produced by polymerization in the presence of a polyoxypropylene glycol (ACTO-COL P-23) having a molecular weight of 3,000, corresponding to the oxyalkylene polymeric plasticizer (C) of the present claims. The vinyl polymer, therefore, corresponds to the vinyl polymer (B) of the present claims.

Applicants note that Example 4 as described in the present specification contains an error with respect to the amount employed in Example 4 of the polymer obtained in Synthesis Example 2. In particular, Example 4, in fact, was prepared by employing 70 parts by weight of the polymer obtained in Synthesis Example 2, instead of the 100 parts by weight of the polymer obtained in Synthesis Example 2 that appears in the original text of Example 4.

Applicants enclose a Declaration Under 37 C.F.R. § 1.132 which states that Example 4 contained this error and which discloses the correct amount employed in Example 4 of the polymer obtained in Synthesis Example 2.

Applicants note that Example 2 also employed a curable composition comprised of the same oxyalkylene polymer of Synthesis Example 2 and the same polyoxypropylene glycol (ACTO-COL P-23) that were employed in Example 4, but the vinyl polymer in Example 2 was the vinyl polymer produced in Synthesis Example 1 where the vinyl polymer was not produced by polymerization in the presence of an oxyalkylene polymeric plasticizer.

In view of the above correction of Example 4, it can be seen that Examples 2 and 4 employed the same amount of polymer obtained in Synthesis Example 2 corresponding to polymer (A) of the present claims, the same amount of the vinyl polymer corresponding to polymer (B) of the present claims, and the same amount of the polyoxypropylene glycol corresponding to the plasticizer (C) of the present claims, with the difference between Examples 2 and 4 being that the vinyl polymer in Example 2 was not produced by polymerization in the presence of an oxyalkylene polymeric plasticizer. Thus, the results of Examples 2 and 4 can be compared directly to each other.

In view of the above, applicants submit that JP '204 does not disclose or render obvious the subject matter of the present claims and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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Respectfully submitted,

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